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AMSAT NEWS SERVICE
ANS-297
The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* VHF Handheld Radio Failed, ARISS Contacts Moved to Kenwood Radio on Board the International Space Station (ISS)
* New ARISS Equipment Completes Major Milestone, Donations Still Needed
* ESEO Satellite Project
* iCubeSat 2017 Workshop
* 2016 AMSAT Space Symposium at Sea Registration Still Open
* ARISS Proposal Window Closes November 1, 2016
* AMSAT Events
* ARISS News
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-297.01
ANS-297 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 297.01
 >From AMSAT HQ KENSINGTON, MD.
DATE October 23, 2016
To All RADIO AMATEURS
BID: $ANS-297.01

VHF Handheld Radio Failed, ARISS Contacts Moved to Kenwood Radio on Board the International Space Station (ISS)

The VHF handheld radio model that has been used by the ARISS program to connect students worldwide with astronauts on board the International Space Station (ISS) for over 16 years has given an error message and is unusable at
this time. While the ARISS technical team evaluates the best path to restore operation from the Columbus module, ARISS contacts will be supported using the
Kenwood radio in the Russian Service Module. During this period, the packet digipeater will be unavailable.

Switching to the 70 cm radio capability on board the Columbus module for some

operations is being coordinated. Expect further updates as we work to resolve
this problem.

Amateur Radio on the International Space Station (ARISS) is a cooperative venture of international amateur radio societies and the space agencies that support the International Space Station (ISS). In the United States, sponsors
are the Radio Amateur Satellite Corporation (AMSAT), the American Radio Relay
League (ARRL), the Center for the Advancement of Science in Space (CASIS) and
National Aeronautics and Space Administration (NASA). The primary goal of ARISS is to promote exploration of science, technology, engineering, and mathematics (STEM) topics by organizing scheduled contacts via amateur radio between crew members aboard the ISS and students in classrooms or informal education venues. With the help of experienced amateur radio volunteers, ISS
crews speak directly with large audiences in a variety of public forums. Before and during these radio contacts, students, teachers, parents, and communities learn about space, space technologies, and amateur radio.

For more information, see
www.ariss.org
www.amsat.org
www.arrl.org.

[ANS thanks ARISS, and Dave Jordan, AA4KN for the above information]

New ARISS Equipment Completes Major Milestone, Donations Still Needed

Yesterday, October 21, 2016, the ARISS hardware team accomplished a very major
milestone – the successful completion of the Technical Interchange Meeting (TIM)for the Interoperable Hardware System, which includes the JVC Kenwood D710
Radio and the Multi Voltage Power Supply.

The TIM was conducted as an ARISS hardware milestone from the Technical Evaluation and Support (TES) Committee and our international members from TES were present. The TIM also had subject matter experts from NASA attending
and providing advice as well as a former (retired) chief engineer from the NASA
Space Communication and Navigation (SCaN) organization. All in all, ARISS received great advice and suggestions on how to move forward with the hardware
development. I am most proud that we have completed this first major milestone
in the development of the next ARISS hardware upgrade to fly on ISS.

On behalf of the ARISS International team, I would like to thank TES co-leads
Mark Steiner and Lou McFadin for their leadership in getting the important milestone accomplished. I would also like to thank Kerry Banke, the Multi Voltage Power Supply developer, Bob Davis who is developing the mechanical enclosure for the system, and Bob Bruninga and Dave Taylor for their help on the D710 programming modes. And, of course, special thanks goes to JVC

Kenwood and Aota Shin and Phil Parton for their support, equipment and engineering that will serve ARISS and the ham community for years to come.

With this milestone completed, we will move forward with the design process and finalize the design with a TIM in the next few months. Our next hurdle will be the Phase 0 safety review which we hope to complete before the end of
this year. While aggressive, we are still working with NASA towards an October
2017 launch of the hardware system.

The costs and effort to develop and certify equipment for human spaceflight missions is very high. The bulk of this cost is for safety certification testing and hazard reporting expertise. We have estimated that from beginning
to end (a 3 year development cycle), the costs for the new hardware system are
in the $200k range. Note that we are aggressively pursuing real dollar and in-kind donations to address this. But, as you know, every bit of funding helps. That is why we started the ARISS Challenge Coin Donation Campaign this year at the Dayton Hamvention.

As you communicate this important milestone to your friends, please remind them that we cannot complete this effort without funding. Human spaceflight hardware developments are always expensive. They are most welcome to donate towards the hardware development by pushing the “ARISS Donate” button at

www.amsat.org.

Those that donate $100 or more will receive a special ARISS Commemorative Coin.

I thank all of you for all your sustained support and efforts to our ARISS cause over the years. It is hard to believe that we are nearing 20 years of ARISS being a team.

[ANS thanks Frank Bauer, KA3HDO, ARISS Chairman for the above information]

ESEO Satellite Project

Here is a brief update on the ESEO Satellite project which may be of interest.

"A team of 3 from AMSAT-UK and Surrey Space Center visited Forli in Italy this
week where the engineering model of the ESEO satellite is being assembled. During the visit, the team began work integrating the AMSAT payload into ESEO,
confirming successful 2 way communication communication via the satellites CAN bus. They also checked the transmission of educational telemetry at 1200
and 4800 bits per second and tested the L band to VHF FM transponder.

ESEO, The European Student Earth Orbiter, is a 50kg satellite from ESA Education incorporating payloads from AMSAT-UK and Universities around Europe."

[ANS thanks David, G0MRF, and AMSAT-UK for the above information]

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iCubeSat 2017 Workshop

iCubeSat 2017 - the 6th Interplanetary CubeSat Workshop will be held 30-31 May 2017 in Cambridge, United Kingdom.

The full call for papers and presentations can be found at www.iCubeSat.org

iCubeSat 2017, the 6th Interplanetary CubeSat Workshop, will address the technical challenges, opportunities, and practicalities of interplanetary space exploration with CubeSats. The workshop provides a unique environment for open wide ranging practical collaboration between academic researchers, industry professionals, policy makers and students developing this new and rapidly growing field. The papers and presentations from previous workshops at Caltech, Cornell, Imperial, MIT and Oxford may be found at:

https://icubesat.org/

You can see the presentations from this years workshop at Oxford at the following link:

https://icubesat.org/archive/2016-2/icubesat-program-2016

[ANS thanks Micheal, iCubeSat 2017 Committee for the above information]

2016 AMSAT Space Symposium at Sea Registration Still Open

If you are an Individual attending Symposium on board the CARNIVAL LIBERTY departing Galveston, TX on November 10, you must register to attend the AMSAT
Space Symposium & Annual Meeting through AMSAT. Cruise arrangements made through Carnival Cruise Lines does not include the registration fee for the Symposium itself.

There are three options to register for Symposium:

-Complete and mail to the AMSAT Office the 2016 Symposium Registration Form that was sent to all AMSAT members back in July along with the BoD ballot along
with payment;

-Call the AMSAT Office (301-822-4376) and speak with AMSAT Office Manager Martha Saragovitz ; or

-Use the AMSAT Store (store.amsat.org) by selecting the “2016 AMSAT-NA Symposium Registration” link found under “Bestsellers” on the right hand side
of the store’s main page.

Registration for the Symposium is $40.00 and includes a copy of the

“Proceedings” that contains papers written for the Symposium as well as technical documentation that AMSAT is placing in the public domain. The “Proceedings” will be available to attendees onboard ship. In addition, the registration provides a means to confirm the number of individuals in your party planning to attend the AMSAT Banquet as well as an opportunity to reserve seats for the Field Ops Breakfast. Both meals are open to anyone wishing to attend (AMSAT Registration is not necessary) and there is no charge for either event as food is included in your cruise package. However, by indicating how many individuals will be attending, it helps to ensure that sufficient seating is made available for each activity.

As the AMSAT Office will not be open after Monday, 7 NOV 16 through that week, we ask that your Symposium Registration be received at the AMSAT office by Friday, 4 NOV 16.

[ANS thanks 2016 AMSAT Space Symposium Committee for the above information]

ARISS Proposal Window Closes November 1, 2016

The Amateur Radio on the International Space Station (ARISS) Program is seeking formal and informal education institutions and organizations, individually or working together, to host an Amateur Radio contact with a crew member on board the ISS. ARISS anticipates that the contact would be held between July 1, 2017 and December 31, 2017. Crew scheduling and ISS orbits will determine the exact contact dates. To maximize these radio contact opportunities, ARISS is looking for organizations that will draw large numbers of participants and integrate the contact into a well-developed education plan.

The deadline to submit a proposal is November 1, 2016. Proposal information and documents can be found at

www.arrl.org/hosting-an-ariss-contact.

[ANS thanks ARISS for the above information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

*Thursday-Monday, 10-14 November 2016 – 2106 AMSAT Space Symposium, Symposium at Sea, on Carnival Liberty, Galveston TX to Cozumel and return

*Saturday, 12 November 2016 – Oro Valley Amateur Radio Club Hamfest in Marana AZ

*Saturday, 3 December 2016 – Superstition Superfest in Mesa AZ

*Saturday, 14 January 2017 – Thunderbird Hamfest 2017 in Phoenix AZ

*Saturday, 4 February 2017 – Palm Springs Hamfest in Palm Springs CA

*Friday-Sunday, 10-12 February 2017 Orlando HamCation in Orlando, FL

*Friday and Saturday, 17-18 February 2017 – Yuma Hamfest in Yuma AZ

[ANS thanks AMSAT-NA for the above information]

ARISS News

Successful Contacts

* Howell L. Watkins Middle School, Palm Beach Gardens, Florida direct via N4J.
The ISS callsign was scheduled to be NA1SS.
The scheduled astronaut is Takuya Onishi KF5LKS
Contact was successful: Mon 2016-10-17 16:08:00 UTC

Right from AOS full quieting!
All 20 questions asked and a farewell by all the students transmitted.
Contact duration 9 mins 30 seconds.
At 16:15 UTC not sure if it was low audio or a signal issue but question 20 had to be repeated. Live streamed over the school network to about 900 students. Media coverage was 2 newspapers and TV station.
There were about 90 students present.

* University of Nebraska's Peter Kiewit Institute, Omaha NE, telebridge via VK4KHZ.
The ISS callsign was scheduled to be NA1SS.
The scheduled astronaut was Kate Rubins KG5FYJ
Contact was successful: Sat 2016-10-15 14:00:08 UTC 29 deg

This was a JOTA event. An estimate of audience was 5,750. We had 19 of 20 scouts interview Dr. Rubins. The last question was at LOS, but Astronaut Mike Fossum (who was at the event) answered for Dr. Rubins. There was low audio from the event, but Shane, VK4KHZ relayed the questions to the ISS.

* Stephen F. Austin Elementary School, Brazosport ISD, Jones Creek, Texas,
telebridge via VK5ZAI
The ISS callsign was scheduled to be NA1SS.
The scheduled astronaut was Takuya Onishi KF5LKS
Contact was successful: Mon 2016-10-10 16:46:00 UTC

Takuya Onishi answered 24 questions. About 400 students, teachers and parents were in the audience. Reporters from two small local newspapers

were also in attendance.

Upcoming Contacts

* Istituto Comprensivo “Marco da Melo”, Mel, Italy, direct via IQ3FL
The ISS callsign is presently scheduled to be OR4ISS.
The scheduled astronaut is Shane Kimbrough KE5HOD.
Contact is presently scheduled for: Sat 2016-11-05 09:32:10 UTC 76 deg

Watch
http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS, Dave, AA4KN, and Charlie, AJ9N for the above information]

Satellite Shorts From All Over

AMSAT's Around the World

A new link has been created under the AMSAT pull-down tab at

http://www.amsat.org or directly

http://www.amsat.org/?page_id=5618

which list the links to all the other AMSAT's around the world. A webpage
like this was on the old AMSAT site and never got migrated over. A new
webpage
has been created. Check it out!

[ANS thanks Bruce Paige, KK5DO, AMSAT BOD Member for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org